SYLLABUS

SIRIUS - Integrated Production Development 22.5 credits T7026T

SIRIUS - Integrerad produktionsutveckling

Course syllabus admitted: Autumn 2021 Sp 1 - Present

DECISION DATE
2021-02-17

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SIRIUS - Integrated Production Development 22.5 credits T7026T

SIRIUS - Integrerad produktionsutveckling

Second cycle, T7026T

Education level	Grade scale	Subject	Subject group (SCB)
Second cycle	G U 3 4 5	Produktionsteknik	Mechanical Engineering

Entry requirements

Courses summing up to 180 credits with sufficient depth within the areas that are deemed important for the production development project, which the participant aims to take part in. Important knowledge in production development corresponding to the content in T7018T, T7019T,T7022T and M7028T.

Selection

The selection is based on 30-285 credits

Course Aim

After completing the course the students shall be able to:

1. Knowledge and understanding

- explain how structured and creative development of product and production system is utilized in modern manufacturing industry,
- explain creative product development methods with special focus on development of production systems and advanced manufacturing methods,
- explain methods and tools, such as production simulation, for analyses of production scenarios and manufacturing processes,
- describe how sustainability aspects (gender included) in the field of mechanical engineering, how these aspects relate to sociaty and research that addresses these challenges,

2. Skill and ability

- apply product development methodology – from planning and need analysis, through concept generation and concept selection to final development of prototypes, with focus on manufacturing methods and production system.
- document and reflect on both your own and the project teams learning process and be able to use this new knowledge in product development projects.
- apply insights on sustainability aspects (gender equality included) when implementing product and production development projects in mechanical engineering.

3. Valuation and attitude

- evaluate the significance of various sustainability aspects (gender equality included) in the implementation of product and production development projects in mechanical engineering.

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Contents

The course is integrated with M7017T (Sirius – Creative Product Development) and M7029T (Sirius - Applied product simulation) and participants works in groups, going from needs to finished product and production system design, with specific focus on manufacturing and production issues. The project is in close collaboration with industry partners with the aim to gain understanding and experience of today’s and tomorrow’s ways for working in integrated product development projects.

Realization

Each course occasion´s language and form is stated and appear on the course page on Luleå University of Technology's website.
The course normally offers 3-6 projects with 4-12 participants in each project team. Every team is supervised by at least one coach (teacher). The coaches’ work is aimed at providing support and structure to the students’ own learning processes within each product development project. The students in this course will have specific responsibility for questions related to manufacturing methods and production systems.

Examination

If there is a decision on special educational support, in accordance with the Guideline Student's rights and obligations at Luleå University of Technology, an adapted or alternative form of examination can be provided.
The product development project is presented in written reports, verbal presentations and at final presentations at LTU and at the industry partner site. The teachers will further carry out verbal group reviews and individual interviews. The final grade is a combination of the above and the participants’ contributions to the product/production development projects. The specific formulation of questions related to manufacturing methods and production is of extra importance.

Remarks

Cannot be included in the degree together with M7017T or M7029T.

Transition terms

The course T7026T is equal to T7021T

Course offered by

Department of Engineering Sciences and Mathematics

Modules

Code	Description	Grade scale	Cr	Status	From period	Title
0001	Project Work	G U 3 4 5	22.5	Mandatory	S19	

Study guidance

Study guidance for the course is to be found in our learning platform Canvas before the course starts. Students applying for single subject courses get more information in the Welcome letter. You will find the learning platform via My LTU.

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Last revised

by Head Faculty Programme Director Niklas Lehto 2021-02-17

Syllabus established

by Mats Näsström 2018-02-15

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